

WHAT IS CLAIMED IS:

1. A microfiche device for producing microfiche, said microfiche device comprising:

a light source (4) configured to emit a light beam (6, 11) for exposing during an exposure time a microfilm (12) based on a data stream supplied to said light source (4) by a computer;

means for carrying out a relative rotational movement between said light beam (11) and the microfilm (12) during said exposure time.

2. The microfiche device according to claim 1, wherein a portion of the microfilm (12) to be exposed by said light beam (11) is curved about a rotational axis (21) about which said rotational movement is carried out.

3. The microfiche device according to claim 2, further comprising at least one optical device (7, 8) positioned between said light source (4) and the microfilm such that said light beam (11) is guided through said at least one optical device (7, 8) to the microfilm (12).

4. The microfiche device according to claim 3, wherein said at least one optical device (7, 8) comprises a telescope unit (7).

5. The microfiche device according to claim 3, wherein said at least one optical device (7, 8) has an optical unit (8) rotatable about said rotational axis (21).

6. The microfiche device according to claim 5, further comprising a shaft (9) on which said optical unit (7, 8) is seated.

7. The microfiche device according to claim 5, wherein said optical unit (8) is configured to be moveable relative to the microfilm (12)

8. The microfiche device according to claim 5, comprising a microfilm drum (13) wherein the portion of the microfilm (12) to be exposed is positioned in said microfilm drum (13).

9. The microfiche device according to claim 8, wherein said microfilm drum (13) has a curved support (18) configured to support the portion of the microfilm (12) to be exposed.

10. The microfiche device according to claim 8, wherein said microfilm drum (13) has a passage way (19) and wherein said optical unit (8) is positioned at least partially in said passageway (19) during said exposure time.

11. The microfiche device according to claim 9, wherein said support (18) is curved about said rotational axis (21).

12. The microfiche device according to claim 11, wherein the microfilm (12) has a longitudinal extension in a direction of said rotational axis (12).

13. The microfiche device according to claim 11, wherein the microfilm (12) has a longitudinal extension in a direction transverse to said rotational axis (12).

14. The microfiche device according to claim 5, wherein said optical unit (8) has at least one reflective surface (10) configured to reflect said light beam (11) toward the microfilm (12).

15. The microfiche device according to claim 14, wherein said optical unit

(8) is a spinning unit.

16. The microfiche device according to claim 14, wherein said optical unit (8) is a polygon member.

17. The microfiche device according to claim 5, further comprising at least one carriage (2), wherein said optical unit (8) is arranged on said at least one carriage (2).

18. The microfiche device according to claim 17, wherein said at least one carriage (2) is moveable in a direction of said rotational axis (21).

19. The microfiche device according to claim 17, wherein said light source (4) is arranged on said at least one carriage (2).

20. The microfiche device according to claim 5, further comprising a light guide configured to guide said light beam (6) emitted by said light source (4) to said optical device (7, 8).

21. The microfiche device according to claim 8, wherein said microfilm drum (13) is configured to be moveable relative to said optical device (7, 8).

22. The microfiche device according to claim 14, wherein said optical unit (8) is configured to be rotatably driven at a constant rotational speed at least within the range in which said light beam (11) reflected on said reflective surface (10) impinges on the microfilm (12).

23. The microfiche device according to claim 1, further comprising at least one modulator (5) arranged downstream of said light source (4) in a path of said

light beam (6).

24. The microfiche device according to claim 23, further comprising at least one digital-analog converter (27) connected to said at least one modulator (5).

25. The microfiche device according to claim 23, wherein said at least one modulator (5) modulates said light beam (6) based on said data stream (25).

26. The microfiche device according to claim 9, wherein said support (18) has a guide (17) for the microfilm (12).

27. The microfiche device according to claim 9, wherein said guide (17) is configured to guide the portion of the microfilm (12) to be exposed laterally therethrough.

28. The microfiche device according to claim 9, wherein said support (18) is configured to pull the portion of the microfilm (12) to be exposed against said support (18) by applying a vacuum.

29. The microfiche device according to claim 28, wherein said support (18) is configured to release the portion of the microfilm (12) after exposure for further transport of the microfilm (12).

30. The microfiche device according to claim 5, further comprising at least one synchronizing unit (29) configured to synchronize the supply of said data stream (25) with at least one of the rotational speed and the rotational travel of said optical unit (8).

31. The microfiche device according to claim 30, wherein said at least one

synchronizing unit (29) has at least one sensor (29) positioned in the path of said light beam (11) shortly before a leading end of the portion of the microfilm (12) to be exposed.

32. A microfiche device for producing microfiche, said microfiche device comprising:

a light source (4) configured to emit a light beam (6, 11) for exposing during an exposure time a microfilm (12) based on a data stream supplied to said light source (4) by a computer, wherein said light source (4) is configured to be linearly moveably relative to the portion of the microfilm (12) to be exposed.

33. The microfiche device according to claim 32, wherein said light source (4) is configured to be linearly moveable across the entire width and length of the portion of the microfilm (12) to be exposed.

34. The microfiche device according to claim 32, wherein said light source (4) is a laser comprising a laser head (41) with laser diodes.

35. A method for producing a microfiche in a microfiche device having a light source (4) configured to emit a light beam (6, 11) for exposing during an exposure time a microfilm (12) based on a data stream supplied to said light source (4) by a computer, said method comprising the steps of:

digitalizing documents to be stored on microfiche to form a data stream;

controlling a light beam (11) emitted by a light source (4) for exposing

during an exposure time a microfilm (12) based on the data stream;

exposing the microfilm (12) with the light beam (11) line by line length-wise or width-wise for generating images on the microfilm (12).

36. The method according to claim 35, wherein, in the step of exposing, a relative movement of the light beam (11) and the microfilm (12) is carried out after each line of exposure.

37. The method according to claim 35, wherein, in the step of exposing, a relative movement of the light beam (11) and the microfilm (12) is carried out continuously during exposure.

38. The method according to claim 35, comprising the steps of storing the data resulting from the step of digitalizing on a data storage device and combining the data in the form of a data-pixel stream (25).

39. The method according to claim 38, further comprising the step of supplying the data-pixel stream (25) to a modulator (5) of the microfiche device.

40. The method according to claim 39, wherein the modulator (5) modulates the light beam (11) based on the data-pixel stream (25).

41. The method according to claim 39, wherein the data-pixel stream (25) is supplied as a function of at least one of the rotational speed and the rotational travel of an optical unit (8) of the microfiche device.

42. The method according to claim 41, further comprising the step of rotating the optical unit (8) at a constant speed.

43. The method according to claim 35, further comprising the step of at least reducing the output of the light source (4) when the light beam (11) does not impinge on the microfilm (12).